

Claims

1. A certification system for identifying an individual person and certifying that the individual person is a right person, which is characterized by including:

5 two dimensional photo printing means for printing visible information for directly distinguishing said individual person as a two dimensional photograph;

data conversion processing means for converting said visible information into data which can be printed as a
10 hologram or a holographic stereogram;

hologram or holographic stereogram manufacturing means for making said holograph or said holographic stereogram in accordance with said data obtained by conversion by said data conversion processing means;

15 information storage means for storing various kinds of information including at least said visible information;

information recording means for recording connection information to connect to said information storage means
20 and read said visible information stored therein, in a designated recording member which is capable of recording various kinds of information;

certification medium manufacturing means for making a certification medium by integrating at least said
25 recording member having said connection information recorded therein by said information recording means, said two dimensional photograph obtained by printing by said two dimensional photo printing means and said hologram or said holographic stereogram made by said
30 hologram or holographic stereogram manufacturing means in a condition that said two dimensional photograph and said

hologram or said holographic stereogram are visible, and
presentation means to be connected to said
information storage means in accordance with said
connection information which is recorded in said
5 recording member by said information recording means and
for receiving and presenting said visible information
corresponding to said connection information among the
information stored in said information storage means.

10 2. The certification system according to Claim 1,
characterized in that said information recording means
puts a partial area of a surface of said certification
medium which is finally manufactured as said recording
member and records said connection information visibly on
15 said recording member.

3. The certification system according to Claim 1,
characterized in that said information recording means
puts a member whose information is readable by a
20 designated apparatus as said recording member and records
said connection information electromagnetically on said
recording member.

4. The certification system according to Claim 3,
25 characterized by including information read-out means
functioning as said designated apparatus for reading out
said connection information which is recorded in said
recording member by said information recording means.

30 5. The certification system according to Claim 4,
characterized in that:

said presentation means is a portable terminal, and
said information read-out means is connected to said
portable terminal.

5 6. The certification system according to Claim 3,
characterized in that said information recording means
generates key information as a certification key based on
encryption for mutual certification between said
information storage means and said presentation means and
10 writes said key information in said recording member in
said certification medium.

7. The certification system according to Claim 6,
characterized in that said presentation means decodes
15 said key information as an encrypted certification key
and judges whether or not the key information obtained by
decoding is valid.

8. The certification system according to Claim 1,
20 characterized by including looks image generation means
for generating looks image data showing looks of said
individual person, and characterized in that said visible
information is said looks image data generated by said
looks image generation means.

25 9. The certification system according to Claim 8,
characterized in that said looks image generation means
photographs said individual person as an object to
generate said looks image data.

30 10. The certification system according to Claim 9,

characterized in that said looks image generation means generates said looks image data by photographing two dimensional image data of said individual person.

5 11. The certification system according to Claim 9, characterized in that said looks image generation means generates said looks image data by as a plurality of pieces of two dimensional image data by photographing said individual person from a plurality of directions.

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12. The certification system according to Claim 11, characterized in that said data conversion processing means converts said looks image data comprising the plurality pieces of two dimensional image data so that
15 the images of respective directions obtained by photographing said individual person from the plurality of directions are sequentially displayed as reproduced images of said hologram or said holographic stereogram so as to generate three dimensional image data.

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13. The certification system according to Claim 9, characterized in that said looks image generation means generates said looks image data as three dimensional image data according to parallax images by photographing
25 said individual person from a range 360° therearound.

14. The certification system according to Claim 9, characterized in that said looks image generation means generates said looks image data as three dimensional
30 image data according to parallax images by photographing said individual person while moving a camera used for

photographing in a linear or arc manner.

15. The certification system according to Claim 1,
characterized in that said data conversion processing
5 means combines designated image data to be a foreground
and/or a background onto said visible information to
perform processing for converting into three dimensional
image data in which information changes in a parallax
direction.

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16. The certification system according to Claim 1,
characterized in that said two dimensional photo printing
means picks up a part of image data from three
dimensional image data generated by said data conversion
15 processing means by converting into printable data as
said hologram or said holographic stereogram to perform
processing for converting the picked up data into two
dimensional image data.

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17. The certification system according to Claim 1,
characterized in that said visible information is a
signature of said individual person.

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18. The certification system according to Claim 1,
characterized in that said hologram or holographic
stereogram manufacturing means makes said hologram or
said holographic stereogram which is capable of
expressing a parallax of any one direction of a
horizontal direction or a vertical direction, or both of
30 the horizontal and vertical directions.

19. The certification system according to Claim 1,
characterized in that:

 said information recording means records said
visible information in said recording member together
5 with said connection information,

 said certification medium manufacturing means
integrates, at least, said recording member in which said
connection information and said visible information is
recorded by said information recording means, said two
10 dimensional photograph, and said hologram or said
holographic stereogram and makes the certification medium
in a condition that said two dimensional photograph and
said hologram or said holographic stereogram are visible,
and

15 said presentation means reads out and presents said
visible information recorded in said recoding member by
said information recording means while presenting said
visible information received from said information
storage means in accordance with said connection
20 information recorded in said recoding member.

20. A certification method for performing certification
to determine if an individual person is a right person,
which is characterized by including:

25 a two dimensional photo printing step for printing
visible information to directly distinguish said
individual person as a two dimensional photograph;

 a data conversion processing step for converting
said visible information into data which can be printed
30 as a hologram or a holographic stereogram;

 a hologram or holographic stereogram manufacturing

step for making said hologram or said holographic stereogram in accordance with said data obtained by conversion in said data conversion processing step;

an information storage step for storing various
5 kinds of information including at least said visible information into designated information storage means;

an information recording step for recording in a designated recording member which is capable of recording various kinds of information the connection information
10 for reading said stored visible information by connecting to said information storage means;

a certification medium manufacturing step for making a certification medium by integrating at least said recording member in which said connection information is
15 recorded in said information recording step, said two dimensional photograph which is obtained by printing in said two dimensional photo printing step, and said hologram or said holographic stereogram which is obtained in said hologram or holographic stereogram manufacturing
20 step in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible; and

a presentation step for connecting to said information storage means in accordance with said
25 connection information which is recorded in said recording member in said information recording step and receiving for presentation said visible information which corresponds to said connection information among information stored in said information storage means.

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21. The certification method according to Claim 20,

characterized in that:

in said information recording step, said visible information is recorded in said recording member together with said connection information,

5 in said certification medium manufacturing step, at least said recording member in which said connection information and said visible information is recorded by said information recording means, said two dimensional photograph, and said hologram or said holographic
10 stereogram in accordance with the visible information are integrated so that the certification medium is made in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible, and

in said presentation step, said visible information
15 recorded in said recoding member by said information recording means is read out and presented while said visible information received from said information storage means in accordance with said connection information recorded in said recoding member is presented.

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22. A certification system for performing certification to determine if an individual person is a right person, which is characterized by including:

two dimensional photo printing means for printing
25 visible information directly distinguishing said individual person as a two dimensional photograph;

data conversion processing means for converting said visible information into data which can be printed as a hologram or a holographic stereogram;

30 hologram or holographic stereogram manufacturing means for making said hologram or said holographic

stereogram in accordance with said data obtained by
conversion by said data conversion processing means;

information recording means for recording said
visible information in a designated recording member
5 which is capable of recording various kinds of
information;

certification medium manufacturing means for making
a certification medium by integrating at least said
recording member in which said visible information is
10 recorded by said information recording means, said two
dimensional photograph which is obtained by printing by
said two dimensional photo printing means, and said
hologram or said holographic stereogram made by said
hologram or holographic stereogram manufacturing means in
15 a condition that said two dimensional photograph and said
hologram or said holographic stereogram are visible; and
presentation means for reading and presenting said
visible information which is recorded in said recording
member by said information recording means.

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23. The certification system according to Claim 22,
characterized in by including information storage means
for storing various kinds of information including at
least said visible information.

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24. The certification system according to Claim 22,
characterized in that said information recording means
puts a member whose information is readable by a
designated apparatus as said recording member and records
30 said visible information electromagnetically on said
recording member.

25. The certification system according to Claim 24,
characterized by including information read-out means
functioning as said designated apparatus for reading out
5 said visible information which is recorded in said
recording member by said information recording means.

26. The certification system according to Claim 25,
characterized in that:
10 said presentation means is a portable terminal, and
 said information read-out means is connected to said
portable terminal.

27. The certification system according to Claim 24,
15 characterized in that said information recording means
performs a designated conversion processing for making
said visible information suitable to be recorded in said
recording member.

20 28. The certification system according to Claim 24,
characterized in that said information recording means
picks up a part of or all image data from three
dimensional image data generated by said data conversion
processing means by converting into printable data as
25 said hologram or said holographic stereogram to record
the picked up data in said recording member as said
visible information.

29. The certification system according to Claim 24,
30 characterized in that said information recording means
generates key information as a certification key based on

encryption for performing certification of said certification medium by said presentation means and writes said key information in said recording member in said certification medium.

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30. The certification system according to Claim 29, characterized in that said presentation means decodes said key information as an encrypted certification key and judges whether or not the key information obtained by
10 decoding is valid.

31. The certification system according to Claim 24, characterized in that said information recoding means generates an encryption key and a decoding key for
15 encrypting and decoding said visible information and encrypts said visible information using said encryption key to record the information in said recording member.

32. The certification system according to Claim 31,
20 characterized in that said presentation means decodes said encrypted visible information using said decoding key to present said visible information obtained by the decoding.

25 33. The certification system according to Claim 22, characterized by including looks image generation means for generating looks image data showing looks of said individual person, and characterized in that said visible information is said looks image data generated by said
30 looks image generation means.

34. The certification system according to Claim 33, characterized in that said looks image generation means photographs said individual person as an object to generate said looks image data.

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35. The certification system according to Claim 34, characterized in that said looks image generation means generates said looks image data by photographing two dimensional image data of said individual person.

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36. The certification system according to Claim 34, characterized in that said looks image generation means generates said looks image data by as a plurality of pieces of two dimensional image data by photographing
15 said individual person from a plurality of directions.

37. The certification system according to Claim 36, characterized in that said data conversion processing means converts said looks image data comprising the
20 plurality pieces of two dimensional image data so that the images of respective directions obtained by photographing said individual person from the plurality of directions are sequentially displayed as reproduced images of said hologram or said holographic stereogram so
25 as to generate three dimensional image data.

38. The certification system according to Claim 34, characterized in that said looks image generation means generates said looks image data as three dimensional
30 image data according to parallax images by photographing said individual person from a range 360° therearound.

39. The certification system according to Claim 34,
characterized in that said looks image generation means
generates said looks image data as three dimensional
5 image data according to parallax images by photographing
said individual person while moving a camera used for
photographing in a linear or arc manner.

40. The certification system according to Claim 22,
10 characterized in that said data conversion processing
means combines designated image data to be a foreground
and/or a background onto said visible information to
perform processing for converting into three dimensional
image data in which information changes in a parallax
15 direction.

41. The certification system according to Claim 22,
characterized in that said two dimensional photo printing
means picks up a part of image data from three
20 dimensional image data generated by said data conversion
processing means by converting into printable data as
said hologram or said holographic stereogram to perform
processing for converting the picked up data into two
dimensional image data.

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42. The certification system according to Claim 22,
characterized in that said visible information is a
signature of said individual person.

30 43. The certification system according to Claim 22,
characterized in that said hologram or holographic

stereogram manufacturing means makes said hologram or
said holographic stereogram which is capable of
expressing a parallax of any one direction of a
horizontal direction or a vertical direction, or both of
5 the horizontal and vertical directions.

44. A certification method for identifying an individual
person and certifying if the individual person is a right
person, which is characterized by including:

10 a two dimensional photo printing step for printing
visible information which directly distinguishing said
individual person as a two dimensional photograph;

a data conversion processing step for converting
said visible information into data which can be printed
15 as a hologram or a holographic stereogram;

a hologram or holographic stereogram manufacturing
step for making said hologram or said holographic
stereogram in accordance with said data which is obtained
by the conversion in said data conversion processing
20 step;

an information recording step for recording said
visible information in a designated recording member in
which various kinds of information can be recorded;

a certification medium manufacturing step for making
25 a certification medium by integrating at least said
recording member in which said visible information is
recorded in said information recording step, said two
dimensional photograph which is obtained by printing in
said two dimensional photo printing step, and said
30 hologram or said holographic stereogram made in said
hologram or holographic stereogram manufacturing step in

a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible; and

a presentation step for reading and presenting said visible information which is recorded in said recording member in said information recording step.

45. A certification medium manufacturing apparatus for making a certification medium to be used in a certification system for performing certification if an individual person is a right person, said certification medium manufacturing apparatus is characterized by including:

two dimensional photo printing means for printing visible information which directly distinguishes said individual person as a two dimensional photograph;

data conversion processing means for converting said visible information into data which can be printed as a hologram or a holographic stereogram;

hologram or holographic stereogram manufacturing means for making said hologram or said holographic stereogram in accordance with said data which is obtained by conversion by said data conversion processing means;

information storage means for storing various kinds of information including at least said visible information;

information recording means for recording a connection information to connect to said information storage means to read said stored visible information; and

certification medium manufacturing means for making a certification medium by integrating at least said

recording member in which said connection information is recorded by the information recording means, said two dimensional photograph which is obtained by printing by said two dimensional photo printing means, and said
5 hologram or said holographic stereogram made by said hologram or holographic stereogram manufacturing means in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible.

10 46. The certification medium manufacturing apparatus according to Claim 45, characterized in that said information recording means puts a partial area of a surface of said certification medium which is finally manufactured as said recording member and records said
15 connection information visibly on said recording member.

47. The certification medium manufacturing apparatus according to Claim 45, characterized in that said information recording means puts a member whose
20 information is readable by a designated apparatus as said recording member and records said connection information electromagnetically on said recording member.

48. The certification medium manufacturing apparatus
25 according to Claim 45, characterized by including looks image generation means for generating looks image data showing looks of said individual person, and characterized in that said visible information is said looks image data generated by said looks image generation
30 means.

49. The certification medium manufacturing apparatus according to Claim 48, characterized in that said looks image generation means photographs said individual person as an object to generate said looks image data.

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50. The certification medium manufacturing apparatus according to Claim 45, characterized in that said two dimensional photo printing means picks up a part of image data from three dimensional image data generated by said data conversion processing means by converting into printable data as said hologram or said holographic stereogram to perform processing for converting the picked up data into two dimensional image data.

15 51. The certification system according to Claim 45, characterized in that:

said information recording means records said visible information in said recording member together with said connection information, and

20 said certification medium manufacturing means integrates, at least, said recording member in which said connection information and said visible information is recorded by said information recording means, said two dimensional photograph, and said hologram or said holographic stereogram and makes the certification medium in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible.

52. A certification terminal device for certifying an individual person and certifying that the individual person is a right person by using a certification medium

made by a certification medium manufacturing apparatus comprising two dimensional photo printing means for printing as a two dimensional photograph visible information which directly distinguishes said individual
5 person, data conversion processing means for converting said visible information into data which can be printed as a hologram or a holographic stereogram, hologram or holographic stereogram manufacturing means for making said hologram or said holographic stereogram in
10 accordance with said data which is obtained by conversion by said data conversion processing means, information storage means for storing various kinds of information including at least said visible information, information recording means for recording connection information to
15 connect to said information storage means and read said stored visible information, in a designated recording member which can record various kinds of information, and certification medium manufacturing means for making the certification medium by integrating at least said
20 recording member in which said connection information is recorded by said information recording means, said two dimensional photograph which is obtained by printing by said two dimension photo printing means and said hologram or said holographic stereogram made by said hologram or
25 holographic stereogram manufacturing means in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible, said certification terminal device characterized by including:
information read-out means for reading out
30 connection information which is recorded in said recording member by said information recording means; and

presentation means for connecting to said
information storage means in accordance with said
connection information which is recorded in said
recording member by said information recording means for
5 receiving and presenting said visible information
corresponding to said connection information among said
information stored in said information storage means.

53. The certification terminal device according to Claim
10 52, characterized in that:

said presentation means is a portable terminal, and
said information read-out means is connected to said
portable terminal.

54. The certification terminal device according to Claim
15 52, characterized in that:

said information recording means records said
visible information in said recording member together
with said connection information,

20 said certification medium manufacturing means
integrates, at least, said recording member in which said
connection information and said visible information is
recorded by said information recording means, said two
dimensional photograph, and said hologram or said
25 holographic stereogram and makes the certification medium
in a condition that said two dimensional photograph and
said hologram or said holographic stereogram are visible,
and

said presentation means reads out and presents said
30 visible information recorded in said recording member by
said information recording means while presenting said

visible information received from said information storage means in accordance with said connection information recorded in said recoding member.

5 55. A certification medium manufacturing apparatus for making a certification medium which is used in a certification system for identifying an individual person and certifying if the individual person is a right person, said certification medium manufacturing apparatus
10 characterized by including:

two dimensional photo printing means for printing visible information which directly distinguishes said individual person as a two dimensional photograph;

data conversion processing means for converting said
15 visible information into data which can be printed as a hologram or a holographic stereogram;

hologram or holographic stereogram manufacturing means for making said hologram or said holographic stereogram in accordance with said data which is obtained
20 by conversion by said data conversion means;

information recording means for recording said visible information in a designated recording member which can record various kinds of information; and

certification medium manufacturing means for making
25 the certification medium by integrating at least said recording member in which said visible information is recorded by said information recording means, said two dimensional photograph which is obtained by printing by said two dimensional photo printing means, and said
30 hologram or said holographic stereogram made by said hologram or holographic stereogram manufacturing means

in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible.

56. The certification medium manufacturing apparatus
5 according to Claim 55, characterized by including information storage means for storing various kinds of information including at least said visible information.

57. The certification medium manufacturing apparatus
10 according to Claim 55, characterized in that said information recording means puts a member whose information is readable by a designated apparatus as said recording member and records said connection information electromagnetically on said recording member.

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58. The certification medium manufacturing apparatus according to Claim 55, characterized in that said information recording means picks up a part of or all image data from three dimensional image data generated by
20 said data conversion processing means by converting into printable data as said hologram or said holographic stereogram to record the picked up data in said recording member as said visible information.

25 59. The certification medium manufacturing apparatus according to Claim 55, characterized by including looks image generation means for generating looks image data showing looks of said individual person, and characterized in that said visible information is said
30 looks image data generated by said looks image generation means.

60. The certification medium manufacturing apparatus according to Claim 59, characterized in that said looks image generation means photographs said individual person as an object to generate said looks image data.

61. The certification medium manufacturing apparatus according to Claim 55, characterized in that said two dimensional photo printing means picks up a part of image data from three dimensional image data generated by said data conversion processing means by converting into printable data as said hologram or said holographic stereogram to perform processing for converting the picked up data into two dimensional image data.

62. A certification terminal device for identifying an individual person and certifying that the individual person is a right person by using a certification medium made by a certification medium manufacturing apparatus comprising two dimensional photo printing means for printing visible information which directly distinguishes said individual person as a two dimensional photograph, data conversion processing means for converting said visible information into data which can print as a hologram or a holographic stereogram, hologram or holographic stereogram manufacturing means for making said hologram or said holographic stereogram in accordance with said data which is obtained by conversion by said data conversion processing means, information recording means for recording said visible information in a designated recording member which can record various

kinds of information, certification medium manufacturing means for making the certification medium by integrating at least said recording member in which said visible information is recorded by said information recording means, said two dimensional photograph which is obtained by printing by said two dimensional photo printing means, and said hologram or said holographic stereogram made by said hologram or holographic stereogram manufacturing means in a condition that said two dimensional photograph and said hologram or said holographic stereogram are visible, said certification terminal device characterized by including:

information read-out means for reading out said visible information which is recorded in said recording member by said information recording means; and

presentation means for presenting said visible information which is read out of said recording member by said information read-out means.

63. The certification terminal device according to Claim 62, characterized in that:

said presentation means is a portable terminal, and
said information read-out means is connected to said portable terminal.